



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,559	03/23/2001	Tao Chen	000436	7119

23696 7590 03/10/2005

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

LE, DANH C

ART UNIT	PAPER NUMBER
----------	--------------

2683

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/816,559

Applicant(s)

CHEN ET AL.

Examiner

DANH C LE

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-102 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-17,31-34,48-51,64-68,82-85 and 98-102 is/are allowed.
- 6) ☒ Claim(s) 1-13,18-30,35-47,52-63,69-71 and 86-97 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152).
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-10, 18-29, 35-44, 52-79, 86-92 are rejected under 35 U.S.C. 102(b) as being anticipated by Doucet (US 6,348,986).

As to claim 1, Doucet teaches a method of communication in wireless communication system (figure 12), comprising:

forming multiple beam patterns (1500-1560) comprising a first beam and second beam between the first device and second device to cover a region;

receiving a first signal (130-1) using the first beam using the first beam (1556-1);
and

detecting a second signal (130-2) using the second beam (1560-2).

As to claim 2, Doucet teaches the method of claim 1 wherein the coverage of the region comprises sweeping the first beam across the region (col.32, lines 30-49).

As to claim 3, Doucet teaches the method of claim 1 wherein the coverage of the region comprises moving the first beam to a plurality of different locations within the region (col.32, lines 30-49).

Art Unit: 2683

As to claim 4, Doucet teaches the method of claim 1 wherein the formation of the first beam comprises forming a plurality of beams to cover the region (1560L).

As to claim 5, Doucet teaches the method of claim 1 wherein the formation of the first beam comprises forming an omni-directional beam (col.14, lines 7-23).

As to claim 6, Doucet teaches the method of claim 1 further comprising detecting a second signal in the region wherein the second signal is a multi-path signal using the first beam, and wherein the formation of the second beam comprises forming the second beam to receive both the signal and the second signal (figure 4, 600).

As to claim 7, Doucet teaches the method of claim 6 wherein the formation of the second beam further comprises forming a plurality of beams, one of the plurality of beams receiving the signal and a second one of the plurality of beams receiving the second signal, where the second signal originates from a third device (10-3).

As to claim 8, Doucet teaches the method of claim 6 wherein the formation of the second beam further comprises forming a shape of the second beam to receive both the signal and the second signal (1560-2).

As to claim 9, Doucet teaches the method of claim 1 further comprising adjusting the second beam to track the detected signal (col.32, lines 30-49).

As to claim 10, Doucet teaches the method of claim 9 wherein the adjustment of the second beam comprises moving the second beam (col.32, lines 30-49).

As to claim 18, the claim is a system claim of claim 1; therefore, the claim is interpreted and rejected as set forth as in claim 1.

Art Unit: 2683

As to claim 19, the claim is a system claim of claim 5; therefore, the claim is interpreted and rejected as set forth as in claim 5.

As to claim 20, the claim is a system claim of claim 4; therefore, the claim is interpreted and rejected as set forth as in claim 4.

As to claim 21, the claim is a system claim of claim 2; therefore, the claim is interpreted and rejected as set forth as in claim 2.

As to claim 22, the claim is a system claim of claim 3; therefore, the claim is interpreted and rejected as set forth as in claim 3.

As to claim 23, the claim is a system claim of claim 9; therefore, the claim is interpreted and rejected as set forth as in claim 9.

As to claim 24, the claim is a system claim of claim 10; therefore, the claim is interpreted and rejected as set forth as in claim 10.

As to claim 25, the claim is a system claim of claim 8; therefore, the claim is interpreted and rejected as set forth as in claim 8.

As to claim 26, Doucet teaches the receiver system of claim 18 wherein the antenna comprises a plurality of spatially separated elements (col.4, line 60-col.5, line 12).

As to claim 27, Doucet teaches the receiver system of claim 26 wherein the elements comprises first and second groups, the first group configured to form the first beam and the second group configured to form the second beam (col.3, line 52-col.4, line 14).

Art Unit: 2683

As to claim 28, the claim is a system claim of claim 12; therefore, the claim is interpreted and rejected as set forth as in claim 12.

As to claim 29, the claim is a system claim of claim 13; therefore, the claim is interpreted and rejected as set forth as in claim 13.

As to claim 35, Doucet teaches the method of communication (figure 19), comprising:

transmitting a signal from a first device;

forming a multiple beam patterns comprising a first beam and a second beam between the first device and a second device to search for the transmitted signal within a region;

receiving a first signal (140/150) using the first beam using the first beam; and detecting a second signal (3845/3855) using the second beam.

As to claim 36, the limitation of the claim is same limitation of claim 2; therefore, the claim is interpreted and rejected as set forth as in claim 2.

As to claim 37, the limitation of the claim is same limitation of claim 3; therefore, the claim is interpreted and rejected as set forth as in claim 3.

As to claim 38, the limitation of the claim is same limitation of claim 4; therefore, the claim is interpreted and rejected as set forth as in claim 4.

As to claim 39, the limitation of the claim is same limitation of claim 5; therefore, the claim is interpreted and rejected as set forth as in claim 5.

As to claim 40, the limitation of the claim is same limitation of claim 6; therefore, the claim is interpreted and rejected as set forth as in claim 6.

Art Unit: 2683

As to claim 41, the limitation of the claim is same limitation of claim 7; therefore, the claim is interpreted and rejected as set forth as in claim 7.

As to claim 42, the limitation of the claim is same limitation of claim 8; therefore, the claim is interpreted and rejected as set forth as in claim 8.

As to claim 43, the limitation of the claim is same limitation of claim 9; therefore, the claim is interpreted and rejected as set forth as in claim 9.

As to claim 44, the limitation of the claim is same limitation of claim 10; therefore, the claim is interpreted and rejected as set forth as in claim 10.

As to claim 52, Doucet teaches a remote station comprising a processor configured to control an antenna to form multiple beam patterns(col.14, lines 48-67) comprising a first beam and a second beam between a first device and a second device;

Receive a first signal using the first beam;

Detect a second signal using the second beam; and

Receive the second signal using the second beam.

As to claim 53, the limitation of the claim is same limitation of claim 5; therefore, the claim is interpreted and rejected as set forth as in claim 5.

As to claim 54, the limitation of the claim is same limitation of claim 4; therefore, the claim is interpreted and rejected as set forth as in claim 4.

As to claim 55, the limitation of the claim is same limitation of claim 2; therefore, the claim is interpreted and rejected as set forth as in claim 2.

Art Unit: 2683

As to claim 56, the limitation of the claim is same limitation of claim 3; therefore, the claim is interpreted and rejected as set forth as in claim 3.

As to claim 57, the limitation of the claim is same limitation of claim 9; therefore, the claim is interpreted and rejected as set forth as in claim 9.

As to claim 58, the limitation of the claim is same limitation of claim 10; therefore, the claim is interpreted and rejected as set forth as in claim 10.

As to claim 69, the claim is a computer program of claim 1; therefore, the claim is interpreted and rejected as set forth as in claim 1.

As to claim 70, the claim is a computer program of claim 2; therefore, the claim is interpreted and rejected as set forth as in claim 2.

As to claim 71, the claim is a computer program of claim 3; therefore, the claim is interpreted and rejected as set forth as in claim 3.

As to claim 72, the claim is a computer program of claim 4; therefore, the claim is interpreted and rejected as set forth as in claim 4.

As to claim 73, the claim is a computer program of claim 5; therefore, the claim is interpreted and rejected as set forth as in claim 5.

As to claim 74, the claim is a computer program of claim 6; therefore, the claim is interpreted and rejected as set forth as in claim 6.

As to claim 75, the claim is a computer program of claim 7; therefore, the claim is interpreted and rejected as set forth as in claim 7.

Art Unit: 2683

As to claim 76, the claim is a computer program of claim 8; therefore, the claim is interpreted and rejected as set forth as in claim 8.

As to claim 77, the claim is a computer program of claim 9; therefore, the claim is interpreted and rejected as set forth as in claim 9.

As to claim 78, the claim is a computer program of claim 10; therefore, the claim is interpreted and rejected as set forth as in claim 10.

As to claim 79, the claim is a computer program of claim 11; therefore, the claim is interpreted and rejected as set forth as in claim 11.

As to claim 86, Doucet teaches a receiver system (figure 12), comprising:
means for forming a multiple beams (1560L) through an antenna to search for a first signal;

means for receiving a first signal (130-1) using the first beam (1550-1); and
means for forming a second beam through the antenna to receive a second signal.

Means for receiving the second signal (130-2) using the second beam (1550-2).

As to claim 87, the limitation of the claim is same limitation of claim 5; therefore, the claim is interpreted and rejected as set forth as in claim 5.

As to claim 88, the limitation of the claim is same limitation of claim 4; therefore, the claim is interpreted and rejected as set forth as in claim 4.

As to claim 89, the limitation of the claim is same limitation of claim 2; therefore, the claim is interpreted and rejected as set forth as in claim 2.

Art Unit: 2683

As to claim 90, the limitation of the claim is same limitation of claim 3; therefore, the claim is interpreted and rejected as set forth as in claim 3.

As to claim 91, the limitation of the claim is same limitation of claim 9; therefore, the claim is interpreted and rejected as set forth as in claim 9.

As to claim 92, the limitation of the claim is same limitation of claim 10; therefore, the claim is interpreted and rejected as set forth as in claim 10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 45, 59, 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doucet in view of Honcharenko (US 6,349,217).

As to claim 11, Doucet teaches a method of claim 9, Doucet fails to teach the adjustment of the second beam comprises changing a shape of the second beam. Honcharenko teaches the adjustment of the second beam comprises changing the shape of the second beam (Honcharenko, col.2, lines 20-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Honcharenko into the system of Doucet in order to improve transmission quality and reception characteristic of the wireless fiber communication system.

Art Unit: 2683

As to claim 45, the limitation of the claim is same limitation of claim 11; therefore, the claim is interpreted and rejected as set forth as in claim 11.

As to claim 59, the limitation of the claim is same limitation of claim 11; therefore, the claim is interpreted and rejected as set forth as in claim 11.

As to claim 93, the limitation of the claim is same limitation of claim 11; therefore, the claim is interpreted and rejected as set forth as in claim 11.

Claims 12, 13, 30, 46-47, 60-63, 80-81, 96-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doucet in view of Tsutsui (US 6,385,181).

As to claim 12, Doucet teaches the method of claim 1, Doucet fails to teach the formation of the first beam comprises receiving energy through a plurality of spatially separated elements, applying a weight to the received energy from each of the elements, and combining the weighted energy. Tsutsui teaches the formation of the first beam comprises receiving energy through a plurality of spatially separated elements, applying a weight to the received energy from each of the elements, and combining the weighted energy (col.6, lines 15-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Tsutsui into the system of Doucet in order to improve transmission quality and reception characteristic of the wireless fiber communication system.

Art Unit: 2683

As to claim 13, the combination of Doucet and Tsutsui teaches the method of claim 12 wherein the weight applied to the received energy from each of the elements is different (col.6, lines 15-36).

As to claim 30, the combination of Doucet and Tsutsui teaches teaches the processor further comprises a search configured to search for the first signal as a function of the combined weighted energy (col.6, lines 15-36).

As to claim 46, the limitation of the claim is same limitation of claim 12; therefore, the claim is interpreted and rejected as set forth as in claim 12.

As to claim 47, the limitation of the claim is same limitation of claim 13; therefore, the claim is interpreted and rejected as set forth as in claim 13.

As to claim 60, the limitation of the claim is same limitation of claim 12; therefore, the claim is interpreted and rejected as set forth as in claim 12.

As to claim 61, the limitation of the claim is same limitation of claim 13; therefore, the claim is interpreted and rejected as set forth as in claim 13.

As to claim 62, the limitation of the claim is same limitation of claim 30; therefore, the claim is interpreted and rejected as set forth as in claim 30.

As to claim 63, Tsutsui also teaches the remote station of claim 62 wherein the searcher comprises a correlator configured to despread a pilot signal, the search for the first signal being a function of the pilot signal (figure 4, 131)

As to claim 80, the claim is a computer program of claim 12; therefore, the claim is interpreted and rejected as set forth as in claim 12.

Art Unit: 2683

As to claim 81, the claim is a computer program of claim 13; therefore, the claim is interpreted and rejected as set forth as in claim 13.

As to claim 96, the limitation of the claim is same limitation of claim 30; therefore, the claim is interpreted and rejected as set forth as in claim 30.

As to claim 97, the limitation of the claim is same limitation of claim 63; therefore, the claim is interpreted and rejected as set forth as in claim 63.

Response to Arguments

Applicant's arguments with respect to claim 1-13, 18-30, 35-47, 52-63, 69-81, 86-97 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

Claims 14-17, 31-34, 48-51, 64-68, 82-85 and 98-102 are allowed as stated in the applicant's remarks on page 20.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

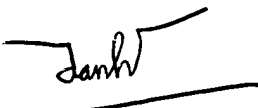
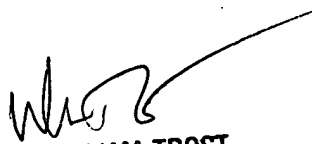
Art Unit: 2683

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANH C LE whose telephone number is 703-306-0542. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM TROST can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Danh C. Le
WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600